AMENDMENT UNDER 37 C.F.R. § 1.111 Att rney Docket N .: Q68434

U.S. Applicati n N : 10/078,659

**AMENDMENTS TO THE CLAIMS** 

This listing of claims will replace all prior versions and listings of claims in the

application:

**LISTING OF CLAIMS:** 

1. (original): A magnetic recording medium comprising

a non-magnetic substrate having thereon a non-magnetic underlayer,

a magnetic recording layer comprising a Co alloy represented by the formula:

aCobCrcPtdTaeZrfCuhBjRu, wherein b is from 8 to 26 at%, c is 20 at% or less, d is 7 at% or

less, e is 4 at% or less, f is 3 at% or less, h is from 1 to 20 at%, j is 20 at% or less, and a is

the balance,

a soft magnetic layer and

a protective layer,

wherein the coercivity is 2,500 Oe or more, and the thickness of the soft magnetic layer

is from 5 to 50 Å.

2. (currently amended): A magnetic recording medium as claimed in claim 1,

wherein the magnetic <u>recording</u> layer comprises two or more magnetic layers and an

average composition formula of the magnetic layer is represented by the formula:

aCobCrcPtdTaeZrfCuhBjRu, wherein b is from 8 to 26 at%, c is 20 at% or less, d is 7 at% or

less, e is 4 at% or less, f is 3 at% or less, h is from 1 to 20 at%, j is 20 at% or less, and a is

the balance.

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket N .: Q68434

U.S. Applicati n N: 10/078,659

3. (currently amended): A magnetic recording medium comprising

a non-magnetic substrate having thereon a non-magnetic -under layer underlayer,

a magnetic recording layer,

a soft magnetic layer and

a protective layer,

wherein the coercivity is 2,500 Oe or more, and the thickness of the soft magnetic layer

is from 5 to 50 Å,

wherein a non-magnetic intermediate layer comprising a Co alloy represented by the

formula: aCobCrcPtdTaeZrfCuhB, wherein Pt and Ta are present and wherein b is from 25 to 50

at%, c is 10 at% or less, d is 10 at% or less, e is 5 at% or less, f is 5 at% or less, h is 10 at%

or less, and a is the balance, is present immediately under the magnetic recording layer.

4. (currently amended): A magnetic recording medium comprising

a non-magnetic substrate having thereon a non-magnetic underlayer,

a magnetic recording layer,

a soft magnetic layer and

a protective layer

wherein the coercivity is 2,500 Oe or more, and the thickness of the soft magnetic layer

is from 5 to <del>5040</del> Å,

wherein a non-magnetic underlayer having a thickness of 100 to 300 Å comprises a

layer of a material containing NiAl.

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney D cket N .: Q68434

**U.S. Application No: 10/078,659** 

5. (currently amended): A magnetic recording medium comprising

a non-magnetic substrate having thereon a non-magnetic under layer underlayer,

a magnetic recording layer,

a soft magnetic layer and

a protective layer,

wherein the coercivity is 2,500 Oe or more, and the thickness of the soft magnetic layer is from 5 to 50  $\mbox{\AA}$ ,

wherein a non-magnetic underlayer having a thickness of 100 to 300 Å comprises a layer of a material containing Cr and one or more elements selected from the group consisting of Mo, W, V, Ti and Nb wherein said one or more Mo, W, V, Ti and Nb are present in an amount of 30 at% or less.

- 6. (original): The magnetic recording medium as claimed in any one of claims 1 to 5, wherein an amount of extracted Ni from the substrate is 0.08 ng/cm<sup>2</sup> or less based on unit area of the substrate.
- 7. (original): The magnetic recording medium as claimed in any one of claims 1 to 5, wherein the soft magnetic layer has a maximum magnetic permeability of from 1,000 to 1,000,000.
- 8. (currently amended): The magnetic recording medium as claimed in claim 1 or 2, wherein a non-magnetic intermediate layer comprising a Co alloy represented by the formula:

AMENDMENT UNDER 37 C.F.R. § 1.111

**U.S. Application N**: 10/078,659

aCobCrcPtdTaeZrfCuhB, wherein b is from 25 to 50 at%, c is 10 at % or less, d is 10 at % or

less, e is 5 at % or less, f is 5 at % or less, h is 10 at % or less, and a is the balance, is present

Att rney Docket N .: Q68434

immediately under the magnetic recording layer.

9. (original): The magnetic recording medium as claimed in any one of claims 1 to 3,

wherein a non-magnetic underlayer having a thickness of 100 to 300 Å comprises a layer of a

material containing NiAl.

10. (original): The magnetic recording medium as claimed in any one of claims 1 to 3,

wherein a non-magnetic underlayer having a thickness of 100 to 300 Å comprises a layer of a

material containing Cr and one or more elements selected from the group consisting of Mo, W,

V, Ti and Nb.

11. (original): The magnetic recording medium as claimed as claim 8, wherein a non-

magnetic underlayer having a thickness of 100 to 300 Å comprises a layer of a material

containing NiAl.

12. (original): The magnetic recording medium as claimed in claim 8, wherein a non-

magnetic underlayer having a thickness of 100 to 300 Å comprises a layer of a material

containing Cr and one or more elements selected from the group consisting of Mo, W, V, Ti and

Nb.

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application N : 10/078,659

13. (currently amended): The magnetic recording medium as claimed in claim 1,

Attorney D cket No.: Q68434

wherein b is from 16 to 22 at %, c ifis from 6 to 10 at %, d is from 1 to 3 at %, e is 2 at % or

less, f is 2 at % or less, g is 8 at % or less and a is the balance.

14. (currently amended): A head employing a reproducing device making use of a

magnetoresistive effect in combination with the magnetic recording medium as claimed in any

one of claims 1 to 5-and 8.

15 (new): A head employing a reproducing device making use of a magnetoresistive

effect in combination with the magnetic recording medium as claimed in claim 8.